

Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

- 1 1. (Original) An apparatus, comprising:
 - 2 a first interface;
 - 3 a second interface not directly coupled to said first interface; and
 - 4 a cache accessible from said first interface and said second interface, to
 - 5 contain a cache line with a first cache coherency state when accessed from
 - 6 said first interface and a second cache coherency state when accessed from
 - 7 said second interface.

- 1 2. (Original) The apparatus of claim 1, wherein said first cache
2 coherency state has higher privilege than said second cache coherency state
3 when said second interface is coupled to a processor.

- 1 3. (Original) The apparatus of claim 2, wherein said second cache
2 coherency state is to reduce snoop transactions on said second interface.

- 1 4. (Original) The apparatus of claim 2, wherein said first cache
2 coherency state is exclusive and said second cache coherency state is shared.

- 1 5. (Original) The apparatus of claim 2, wherein said first cache
2 coherency state is modified and said second cache coherency state is shared.

- 1 6. (Original) The apparatus of claim 3, wherein said second cache
2 coherency state supports speculative invalidation.

1 7. (Original) The apparatus of claim 6, wherein said first cache
2 coherency state is modified and said second cache coherency state is invalid.

1 8. (Original) The apparatus of claim 6, wherein said first cache
2 coherency state is exclusive and said second cache coherency state is invalid.

1 9. (Original) The apparatus of claim 6, wherein said first cache
2 coherency state is shared and said second cache coherency state is invalid.

1 10. (Original) The apparatus of claim 6, wherein said second cache
2 coherency state further supports explicit invalidation.

1 11. (Original) A method, comprising:
2 associating a first cache coherency state with a first cache line in a first
3 cache;
4 associating a second cache coherency state with a second cache line in
5 a second cache in an inner relationship to said first cache;
6 transitioning said first cache coherency state to a joint cache coherency
7 state including said first cache coherency state for outer interfaces and a third
8 cache coherency state for inner interfaces; and
9 transitioning said second cache coherency state to said third cache
10 coherency state.

1 12. (Original) The method of claim 11, wherein said first cache coherency
2 state is exclusive, said second cache coherency state is invalid, and said third
3 cache coherency state is shared.

1 13. (Original) The method of claim 11, wherein said first cache coherency
2 state is modified, said second cache coherency state is modified, and said third
3 cache coherency state is invalid.

1 14. (Original) A method, comprising:
2 associating a first cache coherency state with a first cache line in a first
3 cache;
4 associating a second cache coherency state with a second cache line in
5 a second cache in an inner relationship to said first cache;
6 transitioning said second cache coherency state to an invalid state; and
7 transitioning said first cache coherency state to a joint cache coherency
8 state including said first cache coherency state for outer interfaces and an
9 invalid state for inner interfaces.

1 15. (Original) The method of claim 14, wherein said first cache coherency
2 state is modified.

1 16. (Original) The method of claim 14, wherein said first cache coherency
2 state is exclusive.

1 17. (Original) The method of claim 14, wherein said first cache coherency
2 state is shared.

1 18. (Original) A method, comprising:
2 associating a first cache coherency state with a first cache line in a first
3 cache;
4 associating an invalid state with a second cache line in a second cache
5 in an inner relationship to said first cache;
6 transitioning said invalid state to a shared state; and
7 transitioning said first cache coherency state to a joint cache coherency
8 state including a shared state for inner interfaces.

1 19. (Original) The method of claim 18, wherein said first cache coherency
2 state is invalid and said joint cache coherency state is exclusive-shared.

1 20. (Original) The method of claim 18, wherein said first cache coherency
2 state is modified-invalid and said joint cache coherency state is modified-
3 shared.

1 21. (Original) An apparatus, comprising:
2 means for associating a first cache coherency state with a first cache line
3 in a first cache;
4 means for associating a second cache coherency state with a second
5 cache line in a second cache in an inner relationship to said first cache;
6 means for transitioning said first cache coherency state to a joint cache
7 coherency state including said first cache coherency state for outer interfaces
8 and a third cache coherency state for inner interfaces; and
9 means for transitioning said second cache coherency state to said third
10 cache coherency state.

1 22. (Original) The apparatus of claim 21, wherein said first cache
2 coherency state is exclusive, said second cache coherency state is invalid, and
3 said third cache coherency state is shared.

1 23. (Original) The apparatus of claim 21, wherein said first cache
2 coherency state is modified, said second cache coherency state is modified,
3 and said third cache coherency state is invalid.

1 24. (Original) An apparatus, comprising:
2 means for associating a first cache coherency state with a first cache line
3 in a first cache;
4 means for associating a second cache coherency state with a second
5 cache line in a second cache in an inner relationship to said first cache;
6 means for transitioning said second cache coherency state to an invalid
7 state; and
8 means for transitioning said first cache coherency state to a joint cache
9 coherency state including said first cache coherency state for outer interfaces
10 and an invalid state for inner interfaces.

1 25. (Original) The method of claim 24, wherein said first cache coherency
2 state is modified.

1 26. (Original) The method of claim 24, wherein said first cache coherency
2 state is exclusive.

1 27. (Original) The method of claim 24, wherein said first cache coherency
2 state is shared.

1 28. (Original) An apparatus, comprising:
2 means for associating a first cache coherency state with a first cache line
3 in a first cache;
4 means for associating an invalid state with a second cache line in a
5 second cache in an inner relationship to said first cache;
6 means for transitioning said invalid state to a shared state; and
7 means for transitioning said first cache coherency state to a joint cache
8 coherency state including a shared state for inner interfaces.

1 29. (Original) The apparatus of claim 28, wherein said first cache
2 coherency state is invalid and said joint cache coherency state is exclusive-
3 shared.

1 30. (Original) The apparatus of claim 28, wherein said first cache
2 coherency state is modified-invalid and said joint cache coherency state is
3 modified-shared.

1 31. (Original) A system, comprising:
2 a cache accessible from a first interface and a second interface, to
3 contain a cache line with a first cache coherency state when accessed from
4 said first interface and a second cache coherency state when accessed from
5 said second interface;
6 a bus bridge to a third interface; and
7 an input-output device coupled to said third interface.

1 32. (Original) The system of claim 31, wherein said first cache coherency
2 state has higher privilege than said second cache coherency state when said
3 second interface is coupled to a processor.

1 33. (Original) The system of claim 31, wherein said second cache
2 coherency state is to reduce snoop transactions on said second
3 interface.